

U. S. Serial No. 10/079,010

Attorney Docket No. P04860US1

**REMARKS****OVERVIEW**

Claims 7-10, 12-13, and 15-16 are pending in this application. Claim 14 has been cancelled. This response is an earnest effort to place all claims in proper form for allowance.

**CLARIFICATION**

In the previous response, claim 15 was intended to be amended to include "a chip resistor termination", in the same manner that other independent claims were amended. Argument was made distinguishing the prior art based on the presence of this limitation in claim 15. The Examiner noted that this limitation was not present in claim 15. Therefore, this limitation is being added as was intended.

In addition, claim 14 is being cancelled because the language of "directly overlaying and attaching" is meant to exclude an intermediate layer and the presence of claim 14 introduced ambiguity.

**ISSUES UNDER 35 U.S.C. § 102(b)**

Claim 15 has been rejected under 35 U.S.C. § 102(b) as being anticipated by Kobayashi et al or Holmes. As the Examiner noted previously, "claim 15 has no chip limitation, while the other rejections not disclosing chips have been removed pursuant to Applicant's argument." (Office Action, page 5, numbered paragraph 10). Claim 15 has been amended to include the chip limitation and therefore is respectfully submitted that this rejection to claim 15 should be withdrawn. Kobayashi is directed towards a thermal head as opposed to a chip resistor. Thus, Kobayashi would not have the "chip resistor termination" of claim 15.

Holmes cannot anticipate claim 15 either. Claim 15 now requires "a single nickel-chromium alloy thin film layer directly contacting the substrate" and "an outer moisture barrier

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consisting of tantalum pentoxide directly overlaying and **contacting** the passivation layer for reducing failures due to electrolytic corrosion under powered moisture conditions." Because claim 15 requires "contacting" Holmes does not anticipate. Thus, this rejection should be withdrawn as well.

Claims 7 and 12 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U. S. Patent No. 3,474,305 to Szupillo. The Examiner indicates that "Szupillo discloses the claimed invention at Fig. 5 with thin film layer 20 and tantalum pentoxide layer 22 with the chip seen at Fig. 1 with terminations 10." (Office Action, page 2, numbered paragraph 3). Szupillo does not anticipate claim 7 and 12. One difference of Szupillo is that Szupillo does not disclose "an outer moisture barrier consisting of tantalum pentoxide directly overlaying and contacting the metal thin film resistive layer for reducing failures due to electrolytic corrosion under powered moisture conditions." Szupillo discloses a bi-stable discontinuous thin film resistive element (Abstract). In Szupillo, a dielectric material is used to separate resistive layers. The dielectric 22 of Szupillo is not the "outer moisture barrier" of the present invention. For example, note that Figures 3-7 illustrate the steps in the fabrication of the device (column 3, lines 74-column 4, line 2). Thus, the dielectric 22 of Figure 5 cannot be considered "an outer moisture barrier" of a thin film chip resistor because the resistor of Szupillo is not complete in Figure 5 and in Figure 7 (where the resistor is complete), the dielectric 22 is no longer "outer." Szupillo is clear in that the purpose of the dielectric is to separate the conductive layers. The language of claim 7 makes clear that there is a substrate, a conductive layer contacting the substrate, and a moisture barrier contacting the thin film layer. The moisture barrier is "an outer moisture barrier." The explicit language of claim 7 would preclude devices with multiple layers of conductive thin films. To

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further make this clear, claim 7 has been amended to refer to a "single" metal thin film resistive layer.

It is also noted that Szupillo, contrary to the present invention, discloses oxidizing tantalum to produce tantalum pentoxide (column 8, lines 5-21). Thus, Szupillo cannot fairly be used to disclose using both a non-tantalum thin film and a layer of tantalum pentoxide in the same device. Further, it is not believed that Szupillo explicitly discloses sputter depositing of tantalum pentoxide on a non-tantalum film. It would appear that tantalum pentoxide is formed through oxidation. Therefore, these rejections should also be withdrawn.

Claims 7 and 16 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U. S. Patent No. 3,457,148 to Waggener. First, it is noted that claims 7 and 16 have been amended to include the term "contacting" when describing the relationship of the layers. Also, Waggener does not disclose that tantalum pentoxide is deposited on a non-tantalum conductive layer. Note that Waggener discloses that the conductive layer can be "tantalum and niobium, both of which react with their oxides." (column 2, lines 38-40). Thus, Waggener does not disclose a "non- tantalum" metal film resistive layer with a " tantalum pentoxide" layer as niobium does not oxidize to tantalum pentoxide. Therefore, it is respectfully submitted that these rejections should be withdrawn.

Claims 7-10 and 12-13 and 15 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Copetti et al (US 2001/0017770). First, it is noted that claims 7, 13, and 15 have been amended to use the term "contacting" for describing the relationship between the layers. Copetti discloses a thin film circuit which can include a resistor. Copetti discloses that tantalum pentoxide can be used as a dielectric and is one of many dielectrics that can be used. In Copetti, the dielectrics are used to separate conductive layers. The Examiner considers dielectric 3 of

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Figure 1 to be the "outer moisture barrier" of the claims. The dielectric 3 cannot be the "outer moisture barrier layer" of the claims because the dielectric 3 is not "outer" but rather serves as a separator between resistive layers. Therefore, this rejection should be withdrawn on that basis. In addition, to clarify that the Applicant is not claiming resistors with stacked resistive layers, the claims have been amended to explicitly indicate that there is a "single" thin film resistive layer. Copetti has multiple resistive layers. Therefore, it is respectfully submitted that these rejections based upon Copetti should be removed as the Applicant's invention is readily distinguishable from Copetti.

**ISSUES UNDER 35 U.S.C. § 103(a)**

Claims 7-10 and 12-13 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over admitted prior art in view of Copetti. This rejection is respectfully traversed. Copetti is distinguished from the Applicant's claimed invention as previously expressed. In addition, Copetti merely discloses that tantalum pentoxide is a dielectric and not that it has preferred properties for serving as "an outer moisture barrier . . . for use in failures due to electrolytic corrosion under powered moisture conditions." Copetti does not recognize the problem or the benefits of using tantalum pentoxide. By equating tantalum pentoxide with other known dielectrics, Copetti actually teaches away from the Applicant's claimed invention. Thus, these rejections should appropriately be withdrawn.

Claims 14-16 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over admitted prior art in view of Copetti further in view of Wienand et al. Claim 14 has been cancelled, thereby mooted that rejection. Copetti has been distinguished as previously described. Therefore, it is respectfully submitted that these rejections should be withdrawn as well.

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Claims 14-16 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over admitted prior art in view of Kobayashi et al. Claim 14 has been cancelled, thereby mooted that rejection. In addition, claims 15 and 16 have been amended to include the language of "contacting" to describe the relationship between various layers. Therefore, it is respectfully submitted that these rejections should be withdrawn.

**SUMMARY**

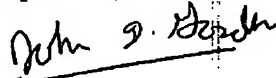
Therefore, it is respectfully submitted that all claims are in proper form for immediate allowance. Reconsideration and passage to issuance is respectfully requested.

The Examiner is invited to contact the undersigned attorney to reach a mutual agreement as to claim limitations if the Examiner does not find all claims allowable.

No fees or extensions of time are believed to be due in connection with this amendment; however, consider this a request for any extension inadvertently omitted, and charge any additional fees to Deposit Account No. 26-0084.

Reconsideration and allowance is respectfully requested.

Respectfully submitted,



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